REMARKS

The Applicant thanks the Examiner for the very brief telephone interview held October 13, 2009 during which the relatively minor suggestions concerning language of proposed claim amendments were discussed. The Applicant has amended the claims per the Examiner's suggestions and to more closely correspond to language of the specification.

Claims 14, 21 and 22 are rejected, under 35 U.S.C. § 102(b), as being anticipated by Popp et al. `597 (U.S. Patent No. 6,375,597). The Applicant acknowledges and respectfully traverses the raised anticipatory rejection in view of the following remarks.

The claims relate to a method of increasing the readiness of a crossover gear shift in an automatic transmission. The method comprises the steps of attaining at least one of a snatch operation of the disengaging switching element and an increase of the transmission rotational speed gradient by providing the transmission with a crossover gear shift switching command. Transmitting a set transmission rotational speed and a set motor torque from a transmission controller to a motor controller. Actuating motor fueling immediately after the crossover gear shift switching command depending upon one of the set transmission rotational speed and the set motor torque. The engagement and disengagement of transmission clutches are effected by the increase in fuel to the engine or a resultant increase in the motor output torque to the transmission during the gear shift.

Turning now to the applied reference, the Applicant summarizes remarks made in previous responses concerning the reference of Popp et al. `597. This reference teaches a method for controlling an automatic transmission as either a function of input variable 18-20. From these variables 18-20 the transmission control 13 selects an appropriate driving step or gear ratio and then activates a corresponding clutch/brake combination via a hydraulic control unit 21. The transmission control 13 further selects an appropriate pressure curve through which the above chosen clutch/brake combination are actuated. A number of input variables 18, 19, 20 as well as the chosen drive mode E, S, W can be used when controlling either the transmission and the hydraulic control unit 21. These input variables are listed in col. 3, lns. 22-30. It should be noted that all of these variable are sent *to* the transmission control unit 13 in which the variables are processed. And then depending on the calculations made by the

transmission control unit 13, control signals are sent *from* transmission control unit 13 to elements of transmission, such as hydraulic control unit 21 which control the pressure of related transmission clutches.

To illustrate the above method FIGS. 5A - 5D show changes in a number applicable drive train elements during a downshift of the transmission while in traction mode. FIG. 5A illustrates the shift command issued by the electronic transmission control ETC (col. 4, lns. 54-55). FIG. 5B illustrates the rotational speed of the transmission input over the course of time (col. 4, lns. 56-57). FIGS. 5C and 5D illustrate the respective pressure curves of a first transmission clutch, which is disengaging, and a second transmission clutch which is engaging over the course of the method (col. 4, lns. 59-62).

Initially at time t1 the ETC receives data of a number of variables. From these variables the ETC selects a corresponding driving step and then issues a shift command to the automatic transmission which actuates a hydraulic control unit that controls various electromagnetic actuators so as to activate clutch/brake combinations (col. 3, lns. 20-21). In this manner, the pressure level of the first clutch is reduced after which a negative pressure ramp begins for the first clutch such that the pressure continues to drop in the first clutch over a period of time t3. Additionally between t1 and t2 pressure in the second clutch is increased, quickly at first and then further to the synchronization point at t5. At the time point t5 the first clutch is disengaged (col. 5, lns. 5-23).

A second example of this method is shown while the vehicle is set in a sporty driving mode. The only difference between this mode and the first mode is that the pressure in the first clutch is lower at corresponding time points. As a consequence of being set in a sporty driving mode, the rotational speed of the transmission input increases at a faster rate than previously discussed and the pressure in the second clutch is raised earlier. As a result, the first clutch is disengaged and the second clutch is engaged earlier (col. 5, lns. 24-40).

A third example of this method is shown with the vehicle is set in a comfortable drive mode. This example is the same as the above two except that the pressures are controlled so as to extend the engagement and disengagement times (col. 5, lns. 41-67).

Popp `597 may teach that a ETC controls transmission elements based on variables sent *from* the engine control unit *to* the transmission control unit. However, in direct contrast to the claims of the application, Popp `597 fails to teach that the clutch engagement and disengagement operations are accelerated by signals sent *from* a transmission controller *to* an motor controller which increase motor firing/fueling. Nor does Popp `597 teach that the motor controller increases motor firing/fueling depending on rotational speed and motor torque values that are transmitted *from* the transmission controller. Furthermore, Popp `597 fails to teach variables sent *from* the transmission controller *to* the motor controller unit which are then used to issue clutch/shifting element engagement or disengagement commands.

With regard to the Examiner's "Response To Arguments" where the Examiner states "that it is clear from the charts shown in Figs. 5A-5D that the engagement and disengagement operations (Figs. 5C and 5D) are effected by an increase in fuel to the engine (Fig. 5B)" (emphasis added). In short, the Examiner contends that the chronological order of the stated events are: first, the amount of fuel to the engine increases; then second, the engagement and disengagement operations are adjusted.

Upon reviewing Popp `597 column 5, line 4 - column 5, line 23, the Applicant asserts that "the sequence [of Popp `597] is as follows:" at time t1 transmission issues a shift command to transmission (lns. 4-6). *Thereby,* or because of the shift command, the pressure in clutch K1 at t1 drops (lns. 7, 8). *Thereafter,* or after the initial pressure drop at t1, the pressure in K1 continues to drop according to a negative pressure ramp up to t3 (lns. 9, 10). Also, simultaneously with the pressure decrease in clutch K1 between the time t1 and t2, clutch K2 is pressurized with a rapid filling pressure (lns. 10-12). *Thereafter,* or after time t2, the pressure begins to rise, in a equalization filling phase (lns. 12, 13), which according to Fig. 5D doesn't begin until close to t4. *As a result of,* or because of, the pressure reduction in clutch K1, the transmission input rotational speed begins to increase *at time t3* (lns. 13, 14).

In short and in opposition to the claims, it is only *after* the pressure in clutch K1 has started to decrease and *after* the pressure in clutch K2 has started to increase that the transmission input rotational speeds *start* to increase. And the clutch pressures increase and

decrease due to a shift signal from the transmission control unit. The Applicant asserts that these teaching are distinct from the claims of the application.

New claims 24 - 34 are closely based on the allowed claims of the corresponding EP Patent No. 1 720 753 B1, a copy of which is attached below.

In order to emphasize the above noted distinctions between the presently claimed invention and the applied art, independent claim 14 of this application now recites the steps of "transmitting a set transmission rotational speed and a set motor torque *from* a transmission controller *to* a motor controller; actuating a motor fueling immediately after the crossover gear shift switching command depending upon one of the set transmission rotational speed and the set motor torque, wherein engagement and disengagement of transmission clutches are effected by an increase in fuel to the engine or a resultant increase in the motor output torque to the transmission during the gear shift". Such features are believed to clearly and patentably distinguish the presently claimed invention from all of the art of record, including the applied art.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejections should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejections or applicability of the Popp et al. '597 reference, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,

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